3.   (amended) A method as defined in claim 2 wherein said management message is generated when said change in said physical layer transport rate exceeds a threshold value.

4.   (amended) A method as defined in claim 3 wherein said management message is generated in response to a decrease in physical layer transport rate in excess of a first threshold value.

5.   (amended) A method as defined in claim 3 wherein said management message is generated in response to an increase in physical layer transport rate in excess of a second threshold value.

7.   (amended) In a communication system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time, a system for managing transmission of the data traffic through the system, the system comprising: monitoring means associated with the physical layer to monitor the transport rate of said link; sending means to send to said upstream source a management message including rate information based on the monitored physical layer transport rate; and adjusting means, at said upstream source, to adjust said transmission rate responsive to the rate information in said management message.

8.   (amended) A system as defined in claim 7 including means to generate said management message in response to a change in the transport rate of said physical layer transmission link.

9.   (amended) A system as defined in claim 8 including means to compare said change in transport rate with a threshold value and to generate said management message only when said change exceeds said threshold value.

10.   (amended) A system as defined in claim 9 having shaping means to shape said data traffic to available bit rate (ABR) category of service having resource management (RM) cells periodically carrying explicit rate information in a feed back loop to said upstream source, said system including means to insert said rate information into said RM cells.

11.   (amended) In a communications system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate

which is subject to variations as a function of time, a method of managing transmission of the data traffic through the system, the method comprising: continually monitoring the physical layer transport rate of said transmission link; generating a management message in response to a change in said monitored physical layer transport rate which exceeds a threshold value, said management message including rate information based on said monitored transport rate; sending to said upstream source said management message; and adjusting said upstream source transmission rate in response to the rate information in the management message.

12.   (amended) A method as defined in claim 11 wherein said data traffic is shaped to available bit rate (ABR) category of service having resource management (RM) cells for periodically carrying explicit rate information to said upstream source in a feed back loop said rate information being inserted into said RM cell.

13.   (amended) In a communications system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time, a system for managing transmission of the data traffic through the system, the system comprising: monitoring means for monitoring the physical layer transport rate of said link; generating means to generate a management message in response to a change in said monitored physical layer transport rate which exceeds a threshold value, said management message including information based on said monitored transport rate; means to send said management message to said upstream source; and adjusting means at said upstream source to adjust said transmission rate in response to the rate information in the management message.

14.   (amended) In a communications system for transporting data traffic downstream from an upstream source over a path which includes a transmission link having a physical layer transport rate which is subject to variations as a function of time, a method of managing the transmission of data traffic through the system, the method comprising: shaping a data connection from the source to the available bit rate (ABR) category of service, the ABR connection including integrated resource management (RM) cells for carrying congestion information back to said upstream source over a feedback path; monitoring the physical layer transport rate of said physical layer transmission link and recording a value derived from said monitored rate in said RM cell; returning said RM cell including the recorded value to said

upstream; and adjusting by the upstream source the transmission rate in response to the recorded value in the RM cell.

17.   (amended) A method as defined in claim 16 wherein data between said upstream source and a downstream destination is bi-directional.

18.   (amended) A method as defined in claim 17 wherein data between said downstream destination and said upstream source for at least part of said ATM path is shaped to comply with ATM unspecified bit rate (UBR) category of service.

21.   (amended) A system for managing data traffic from an upstream source to a downstream destination over an ATM path, the ATM path including a transmission link having a variable physical layer transport rate, said system comprising: shaping means to shape said data traffic connection to comply with ATM available bit rate (ABR) category of service, said ABR connection including an integrated resource management (RM) cell for returning explicit rate (ER) congestion information to said upstream source over a feedback path; monitoring means associated with said transmission link to monitor transport rate capability of said transmission link; recording means to record a rate value derived from said monitored transport rate capability in said RM cell; and control means in said upstream source to adjust the transmission rate of said data traffic in accordance with said transport rate information.

        Please add new claims 22 to 24 as follows:

-22.   The method as defined in claim 1 wherein said management message is contained in a management cell.

23.   The method as defined in claim 1 wherein said rate information is new rate information.

24.   The method as defined in claim 1 wherein said rate information is rate adjustment information.-